REMARKS

The Office Action

Claims 1-35 are pending. Claims 5-9 are under consideration. Claim 5 stands rejected for lack of written description. Claims 5, 6, and 9 stand rejected for lack of enablement. Claims 5-9 stand rejected for anticipation by Surks et al. (J. Biol. Chem. 2003, 278:51484; hereafter "Surks"). Claims 5, 6, and 9 stand further rejected for anticipation by Inazawa et al. (GenBank accession no. AB098507; hereafter "Inazawa") and GeneBank accession no. AL834513. Claim 5 stands further rejected for anticipation by WO 2003031568. Claims 5 and 6 are objected to for reciting the abbreviation M-RIP.

Support for the Amendments

Support for the amendments to claim 5 and new claim 36 are found throughout the specification, for example, in claim 9 and on page 39, lines 13-24.

Claim Objections

Claim 5, from which claim 6 depends, has been amended to recite the full name of M-RIP, myosin phosphatase-Rho interacting protein, and the claim objections are now moot.

Rejections under 35 U.S.C. § 112, first paragraph

Claim 5 stands rejected for lack of written description. The limitations of claim 9 have now been included in claim 5, and the rejection may be withdrawn.

Claims 5, 6, and 9 stand rejected for lack of enablement. The limitations of claim 9 have been included in amended claim 5, and claim 9 has now been cancelled. Claim 5, from which claim 6 depends, recites:

> A substantially pure nucleic acid molecule having at least 90% sequence identity to the nucleic acid sequence of the myosin phosphatase-Rho interacting protein (M-RIP) polynucleotide of SEQ ID NO: 19, wherein said nucleic acid encodes a polypeptide that binds myosin phosphatase, RhoA, or both, and wherein said nucleic acid molecule has 100% sequence identity to nucleotides 1633-2469 of SEQ ID NO: 19.

Thus, claim 5 has been amended to include both a functional limitation, i.e., the encoded polypeptide binds myosin phosphatase, RhoA, or both, and a structural limitation, i.e., 90% overall sequence identity to SEQ ID NO: 19 and 100% sequence identity to nucleotides 1633-2469 of SEQ ID NO: 19. Applicants traverse the rejection as applied to amended claim 5.

The purpose of the enablement requirement is to ensure that an Applicant provides sufficient teaching for one skilled in the art to make and use the claimed invention without undue experimentation (M.P.E.P. § 2164). For the Office to support an enablement rejection, the Examiner must "establish a reasonable basis to question the enablement provided for the claimed invention" (M.P.E.P. § 2164.04; citations omitted). Furthermore, the Office must provide specific technical reasons in support of its rejection (M.P.E.P. § 2164.04). In the instant case, the Office has merely provided conclusory

assertions based on the number of polynucleotides covered by the instant claims without providing any supporting technical arguments or evidence.

Applicants believe that the instant case is similar to one decided by the Board of Patent Appeals and Interferences in *Ex parte Sun* (Appeal No. 2003-1993), a copy of which is enclosed, and that the Office should follow the Board's decision in that case. In *Ex parte Sun*, the Board found a claim directed to "An isolated wee1 nucleic acid comprising ... a wee1 polynucleotide having at least 80% identity to the entire coding region of SEQ ID NO:1" to be enabled. The Board first noted that, to support an enablement rejection, the Examiner must advance acceptable reasoning inconsistent with enablement. In determining that the claims at issue were enabled, the Board then focused on the specification's description of the following factors: (1) the chemical structure of the polynucleotide, (2) how to screen for activity in the encoded polypeptide, (3) the level of skill in the art, and (4) areas of the gene that can be altered without disturbing substrate recognition (page 14).

Using the reasoning of *Ex parte Sun*, the instant claims are also enabled. The instant specification provides the structure of the polynucleotide of SEQ ID NO: 19. The instant specification further teaches assays that may be used to detect binding of an encoded M-RIP polypeptide to myosin phosphatase (Example 4, page 37) and RhoA (Example 5, page 39). The instant specification also refers to methods indicative of the level of skill in the art throughout, e.g., on page 19, lines 10-27; page 20, line 21 to page 21, line 21; Example 1 on page 35, Example 4 on page 37, and Example 5 on page 39.

Finally, the specification identifies amino acids 545-823 (corresponding to nucleotides 1633-2469) as being required for RhoA binding and amino acids 823-878 (corresponding to nucleotides 2467-2634) as being required for binding the myosin binding subunit of myosin phosphatase (page 39, lines 13-24). Moreover, the instant claims require a higher degree of sequence identity than those improperly rejected in *Ex parte Sun* (90% vs. 80%) and further require 100% identity to a region of the polynucleotide that encodes a functional region of the polypeptide. Thus, the instant claims provide more stringent requirements on the covered variants than those found allowable by the Board in *Ex parte Sun*. In addition, the Office has failed to provide any reasoning other than a general assertion that the instant claims are not enabled. As Applicants have provided similar information in the instant specification to that relied upon by the Board in *Ex parte Sun* to find the claims enabled, and as the instant claims are more narrowly drawn than those in *Ex parte Sun*, the Office should withdraw the enablement rejection. Such action is respectfully requested.

Rejections under 35 U.S.C. § 102

Claims 5-9 stand rejected for anticipation by Surks under 35 U.S.C. § 102(a). Applicants enclose herewith a Declaration by Dr. Howard K. Surks under 37 C.F.R. §§ 1.131 and 1.132 stating that any description of the present invention in Surks is derived from the inventors, Dr. Surks or Dr. Mendelsohn, and Surks is thus not prior art under 35 U.S.C. § 102(a). The rejection over Surks may be withdrawn.

Claims 5, 6, and 9 stand further rejected under 35 U.S.C. § 102(a) by Inazawa. Inazawa was published on June 21, 2003. Applicants submit herewith the Declaration under 37 C.F.R. §§ 131 and 1.132 of Dr. Surks that states that Applicants had reduced the instant invention to practice on or before May 12, 2003, which is prior to the publication of Inazawa. This rejection may also be withdrawn.

Claims 5, 6, and 9 stand further rejected under 35 U.S.C. § 102(b) by GeneBank accession no. AL834513. In order to anticipate a claim, the reference must teach every limitation of the claim (M.P.E.P. § 2131).

Amended claim 5, from which claim 6 depends, recites:

> A substantially pure nucleic acid molecule having at least 90% sequence identity to the nucleic acid sequence of the myosin phosphatase-Rho interacting protein (M-RIP) polynucleotide of SEQ ID NO: 19, wherein said nucleic acid encodes a polypeptide that binds myosin phosphatase, RhoA, or both, and <u>wherein said nucleic acid molecule has 100% sequence identity to nucleotides 1633-2469 of SEQ ID NO: 19</u>.

GeneBank accession no. AL834513 does not teach a sequence having 100% sequence identity to nucleotides 1633-2469 of SEQ ID NO: 19, as required by claim 5. For example, the sequence of GeneBank accession no. AL834513 has mismatches at positions 1646, 1729, and 1968. As the reference does not teach every element of claim 5, this rejection may also be withdrawn.

Finally, claim 5 stands further rejected for anticipation by WO 2003031568. As stated above, claim 5 now includes the limitations of claim 9. Since claim 9 was not rejected by WO 2003031568, amended claim 5 is also patentable over the reference. In addition, WO 2003031568 has mismatches at positions 1729 and 1968, and thus does not

have 100% sequence identity to nucleotides 1633-2469 of SEQ ID NO: 19, as required by claim 5. This final basis for the § 102 rejection may also be withdrawn.

CONCLUSION

Applicants submit that the claims are in condition for allowance, and such action is respectfully requested. Enclosed is a petition to extend the period for reply for three months, to and including May 4, 2005. If there are any additional charges or any credits, please apply them to Deposit Account No. 03-2095.

Respectfully submitted,

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